

# Silicon Diode

## **1N658**

100V/500mA

# DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

# 1N658

## GENERAL PURPOSE DIODES

DIFFUSED SILICON PLANAR EPITAXIAL

- $BV \dots 120 \text{ V (MIN) @ } 100 \mu\text{A}$
- $V_F \dots 1.0 \text{ V (MAX) @ } 100 \text{ mA}$

### ABSOLUTE MAXIMUM RATINGS (Note 1)

#### Temperatures

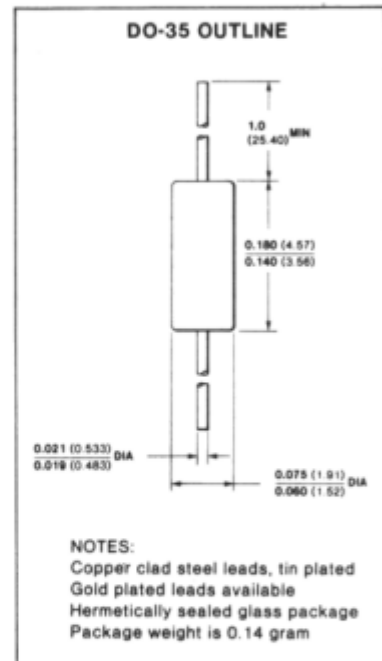
Storage Temperature Range	-65°C to +200°C
Maximum Operating Junction Temperature	+175°C
Lead Temperature	+200°C

#### Power Dissipation (Note 2)

Maximum Total Dissipation at 25°C Ambient	500 mW
Linear Derating Factor (from 25°C)	3.33 mW/°C

#### Maximum Voltage and Currents

WIV	Working Inverse Voltage	100 V
$I_O$	Average Rectified Current	200 mA
$I_F$	Forward Current Steady State	500 mA
$i_f(\text{surge})$	Peak Forward Surge Current	
	Pulse Width = 1.0 s	1.0 A
	Pulse Width = 1.0 $\mu\text{s}$	4.0 A



### ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
$V_F$	Forward Voltage		1.0	V	$I_F = 100 \text{ mA}$
$I_R$	Reverse Current		50 25	nA $\mu\text{A}$	$V_R = 50 \text{ V}$ $V_R = 50 \text{ V}, T_A = 150^\circ\text{C}$
BV	Breakdown Voltage	120		V	$I_{R1} = 100 \mu\text{A}$
$t_{rr}$	Reverse Recovery Time		300	ns	$V_R = 40 \text{ V}, I_F = 5.0 \text{ mA},$ $R_L = 2.0 \text{ k}\Omega, C_L = 10 \text{ pF},$ Recovery to 80 k $\Omega$

#### NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For product family characteristic curves, refer to Chapter 4, D1.

**CURVE SET NUMBER D1**  
HIGH VOLTAGE SMALL SIGNAL DIODE

**TYPICAL ELECTRICAL CHARACTERISTIC CURVES**  
AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE NOTED

